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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/697,695	10/31/2003	Cavelle P. Benjamin IV	839-1247	9810

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EXAMINER	
WEST, JEFFREY R	

ART UNIT	PAPER NUMBER
2857	

DATE MAILED: 07/27/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/697,695	BENJAMIN ET AL.	
	Examiner	Art Unit	
	Jeffrey R. West	2857	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-38,40 and 41* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-38,40 and 41* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *11 May 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 18, 27, and 29 are objected to because of the following informalities:

In claim 18, line 20, to avoid problems of antecedent basis, "the on-site monitor" should be ---the monitor---.

In claim 18, line 24, to avoid problems of antecedent basis, "the on-site monitor" should be ---the monitor---.

In claim 18, line 27, "the of coaching" should be ---the coaching---.

In claim 27, line 2, to avoid problems of antecedent basis, "the likely" should be ---a likely---.

In claim 27, line 3, to avoid problems of antecedent basis, "the consequences" should be ---consequences---.

In claim 29, line 3, to avoid problems of antecedent basis, "of the particular sensors" should be ---of particular sensors---.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-7, 9-14, 16, 18-23, 25-30, 32-38, 40, and 41 are rejected under

35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,553,336 to Johnson et al. in view of U.S. Patent Application Publication No. 2001/0053940 to Horn et al. and U.S. Patent No. 6,298,308 to Reid et al.

Johnson discloses a system for detecting predefined events occurring in a plurality of systems and types of equipment and for diagnosing and responding to the predefined events (column 3, line 59 to column 4, line 6), the system comprising an on-site monitor for analyzing operating data collected from the equipment and for determining if any of the predefined events occurred during operation of the equipment (column 13, line 50 to column 14, line 1), a plurality of sensors for collecting the operating data from the equipment (column 4, lines 14-17) and for transferring the operating data to the monitor (column 7, lines 6-9), a remote management system for storing and retrieving historical data (i.e. trends) pertaining to the operation of the equipment and to the occurrence of the predefined events in the equipment and for storing and analyzing the operating data collected from the equipment and the event determination (column 15, lines 54-61), and at least one coaching tool for using the operating data, event determination and historical data to decide how to respond to the occurrence of any predefined events in the equipment (column 15, lines 61-66 and column 16, lines 11-13).

With respect to claim 2, Johnson discloses that the plurality of sensors are selected from the group consisting of temperature, pressure and flow sensors (column 19, line 63).

With respect to claim 3, Johnson discloses a communication device for transferring to the remote management system the operating data and event determinations from the on-site monitor (column 13, lines 13-16).

With respect to claims 4 and 35, Johnson discloses an analysis platform for analyzing whether any predefined events have occurred, the analysis platform including a first program resident in the monitor (column 12, lines 66-67) and a second program resident in the remote management system (column 16, lines 12-13).

With respect to claims 5 and 36, Johnson discloses that the monitor further comprises a first data storage device which contains the operating data collected by the plurality of sensors (column 14, lines 18-22).

With respect to claims 6 and 37, Johnson discloses that the remote management system further comprises a second data storage device which contains the historical data pertaining to the operation of the equipment, and the event determinations and the operating data collected by the plurality of sensors (column 15, lines 54-55 and column 16, line 13).

With respect to claim 7, Johnson discloses that the first program is a continuous diagnostic engine analysis software (column 15, lines 14-16) and the second program is a central calculating engine analysis software (column 16, lines 44-46).

With respect to claim 9, Johnson discloses that the continuous diagnostic engine analysis software analyzes the operating data collected by the plurality of sensors using standard algorithms and complex information and generates

an alarm when it detects the occurrence of any predefined events (column 13, line 58 to column 14, line 1).

With respect to claims 10, 38, and 41, Johnson discloses that the analysis platform uses procedural and behavioral algorithms to provide information about the operation of the equipment (column 15, lines 54-66).

With respect to claims 12-14, Johnson discloses that the on-site monitor and remote management systems include sensor metadata that is information about how and when operating data for the power generation equipment is collected by the plurality of sensors and the particular units used to measure the collected operating data, specifically including timestamps relating to the times that operating data is collected and recorded and the identification of the particular sensors collecting the data and sensor alias mappings for identifying the sensors corresponding to a customer site where the equipment is located (column 14, lines 37-39, column 15, lines 37-38, and column 16, line 62 to column 17, line 1).

With respect to claim 16, Johnson discloses that the on-site monitor and remote management system are each a computer and further that the monitor is a desktop computer (column 12, lines 63-67) and the management system is a server computer (column 16, lines 25-31).

With respect to claim 17, Johnson discloses using a coaching tool in the form of previously obtained/historical operational data to determine the occurrence of an event (column 15, lines 54-59 and column 21, lines 39-42).

With respect to claim 18, Johnson discloses that the plurality of sensors are located at the customer location (column 6, line 54 to column 7, line 5) and the management system is located at a location different from the customer location (column 13, lines 13-16 and Figure 2).

With respect to claim 20, Johnson discloses system controls for controlling the operation of the equipment and for transferring the operating data to the monitor that controls the equipment through actuators (column 4, lines 14-17 and column 15, lines 61-64).

As noted above, the invention of Johnson teaches many of the features of the claimed invention, and while Johnson does disclose obtaining operational data of a plurality of types of equipment including power quality data (column 26, lines 61-63) as well as compares the operational data with historical data to determine a trend in the operational data (column 15, lines 54-59), Johnson does not specify that the method be used in monitoring power generation equipment for comparison with historical fleet power generation data. Further, while the invention of Johnson does teach the implementation of coaching tools that use historical data to determine an event and/or predict an event occurrence (Johnson, column 23, lines 16-19), Johnson does not specifically determine the likely cause of the event and an action plan for responding to the event with the coaching tools displayed at the on-site monitor to assist operators located at the on-site monitor to respond to a time-critical predefined event in an expedited timeframe and the coaching tools displayed at the remote management system to allow members of the remote

management system to respond to a non-critical predefined event in a non-expedited timeframe.

Horn discloses a method and system for assessing plant parameters and performance over a global network including means of obtaining operating data of power generation equipment (0002-0004 and 0034) for comparison with historical fleet power generation data (0034).

Reid teaches a diagnostic network with automated proactive local experts for use with power generation equipment (column 2, lines 45-47) comprising a plurality of coaching tools for using collected operating data (column 8, lines 54-56), determinations by an on-site monitor of whether any predefined events occurred (column 7, lines 1-13), and historical data (column 9, lines 1-5) to determine a likely cause of any predefined events that have occurred and an action plan for responding to the events (column 9, lines 44-67). Reid also teaches the coaching tools being displayed at the on-site monitor to assist operators located at the on-site monitor of to respond to a time-critical predefined event occurring in the power generation equipment in an expedited timeframe (column 9, lines 44-67 and column 11, lines 22-35) as well as the coaching tools being displayed at a remote management system to allow members of the remote management system to respond to a non-time-critical predefined event in a timeframe that is not expedited (column 7, lines 34-38 and line 62 to column 8, line 2, column 10, lines 28-31 and 44-54).

It would have been obvious to one having ordinary skill in the art to modify the invention of Johnson to specify that the method be used in monitoring

power generation equipment for comparison with historical fleet power generation data, as taught by Horn, because the combination would have increased the application of Johnson by providing application over a wider variety of environments by including power generation equipment and, as suggested by Horn, the combination would have improved the diagnostics a current piece of equipment by using actual historical data of similar equipment thereby allowing improvement in assessments and predicting trends (0034).

Further, the limitation requiring the monitored equipment to be power generation equipment is considered to be an intended use. It has been held that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See *In re Casey*, 370 F.2d 576, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 312 F.2d 937, 939, 136 USPQ 458, 459 (CCPA 1963). In the instant case, since the structure of Johnson is capable of performing remote monitoring and diagnostics on any of a plurality of devices including power generation equipment, Johnson meets the claimed limitation.

It would have been obvious to one having ordinary skill in the art to modify the invention of Johnson to specify determining the likely cause of the event and an action plan for responding to the event with the coaching tools displayed at the on-site monitor to assist operators located at the on-site monitor to respond to a time-critical predefined event in an expedited

timeframe and the coaching tools displayed at the remote management system to allow members of the remote management system to respond to a non-critical predefined event in a non-expedited timeframe, as taught by Reid, because, as suggested by Reid, the combination would have provided increased speed in correcting critical events by eliminating the delays caused by transmission to a remote site and instead relying on local experts to provide explicit instructions to local personnel on the required actions (column 3, lines 16-43) while allowing the remote site to respond to non-critical events with more thorough analysis and testing (column 6, lines 15-20 and column 7, line 62 to column 8, line 2).

4. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of Horn and Reid and further in view of U.S. Patent No. 4,259,835 to Reed et al.

As noted above, Johnson in combination with Horn and Reid teaches many of the features of the claimed invention including detecting predefined events occurring in operating power generation equipment, such as turbines, (Reid, column 4, lines 53-57) as well as a plurality of coaching tools including operational data, but does not specify that the coaching tools further include turbine sequencing and alarms and engineering operational algorithms.

Reed teaches a system and method for monitoring industrial gas turbine operating parameters and for providing gas turbine power plant control system inputs representative thereof comprising coaching tools for aiding the

production and determination of turbine operation including turbine sequencing and alarms and engineering operational algorithms (column 20, lines 16-56 and column 21, lines 31-40).

It would have been obvious to one having ordinary skill in the art to modify the invention of Johnson, Horn, and Reid to specify that the coaching tools further include turbine sequencing and alarms and engineering operational algorithms, as taught by Reed, because, as suggested by Reed, the combination would have provided the turbine under analysis, such as that of Johnson, Horn, and Reid, through an orderly advance of operations according to alarm and engineering operation algorithms, thereby providing more accurate event detection by running the turbine through desired operations wherein the events are to be detected (column 21, lines 31-40).

5. Claims 8, 15, 24, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson et al. in view of Horn and Reid and further in view of U.S. Patent No. 6,041,288 to Ruffolo et al.

As noted above, Johnson in combination with Horn and Reid teaches many of the features of the claimed invention and while the invention of Johnson, Horn, and Reid does disclose comparing operational/sensor data with historical fleet operational data for power generation equipment, the combination does not specifically disclose comparing sensor operating data with equipment operating data provided by manufacturers of the power generation equipment to determine whether any of sensor data exceeds the

manufacturer's operating limits and/or is within the manufacturer's range for the equipment.

Ruffolo teaches a method and apparatus for evaluating AC power distribution equipment (column 1, lines 6-10) including means for determining equipment operational data (column 2, lines 5-11) and comparing the operating data with equipment operating data provided by manufactures of the equipment to determine whether any sensor data exceeds the manufacturer's operating limits and/or is within the manufacturer's range for the equipment (column 2, lines 11-18). Ruffolo also teaches issuing an alarm if the current operational data is outside the manufacturer's range (column 2, lines 18-24).

It would have been obvious to one having ordinary skill in the art to modify the invention of Johnson, Horn, and Reid to specifically include comparing sensor operating data with equipment operating data provided by manufacturers of the power generation equipment to determine whether any of sensor data exceeds the manufacturer's operating limits and/or is within the manufacturer's range for the equipment, as taught by Ruffolo, because, as suggested by Ruffolo, the combination would have improved the analysis of the operating data by comparing the operational data to data set by the manufactures of the equipment thereby insuring that the limits of the data are certain to be the correct limits specific to the device being diagnosed (column 1, lines 49-57 and column 2, lines 11-18).

Response to Arguments

6. Applicant's arguments with respect to claims 1-38, 40, and 41 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure.

U.S. Patent No. 6,735,549 to Ridolfo teaches a predictive maintenance display system that compares operating data to manufacturer's recommendations.

U.S. Patent No. 6,694,285 to Choe et al. teaches a method and apparatus for monitoring rotation machinery.

U.S. Patent No. 6,438,484 to Andrew et al. teaches a method and apparatus for detecting and compensating for compressor surge in a gas turbine using remote monitoring and diagnostics using historical fleet data.

U.S. Patent No. 5,963,884 to Billington et al. teaches a predictive maintenance system.

U.S. Patent Application Publication No. 2002/0095269 to Natalini et al. teaches a system for monitoring and servicing appliances.

U.S. Patent No. 6,646,564 to Azieres et al. teaches a system and method for remote management of equipment operating parameters.

U.S. Patent Application Publication No. 2003/0128126 to Burbank et al. teaches a method and apparatus for error warning with multiple alarm levels and types.

U.S. Patent Application Publication No. 2003/0046377 to Daum et al. teaches a method and apparatus for appliance service diagnostics.

U.S. Patent Application Publication No. 2004/0073654 to Sarma teaches a system and method for remote servicing of embedded devices.

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications

from the examiner should be directed to Jeffrey R. West whose telephone number is (571)272-2226. The examiner can normally be reached on Monday through Friday, 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Marc S. Hoff can be reached on (571)272-2216. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

jrw
July 25, 2005

MARC S. HOFF
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